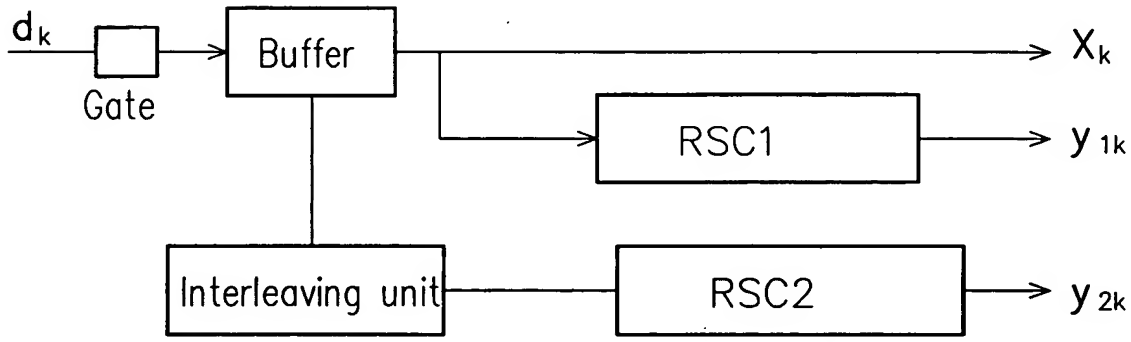
d_k
Gate
Buffer
X_k
RSC1
y_{1k}
Interleaving unit
RSC2
y_{2k}

FIG. 1

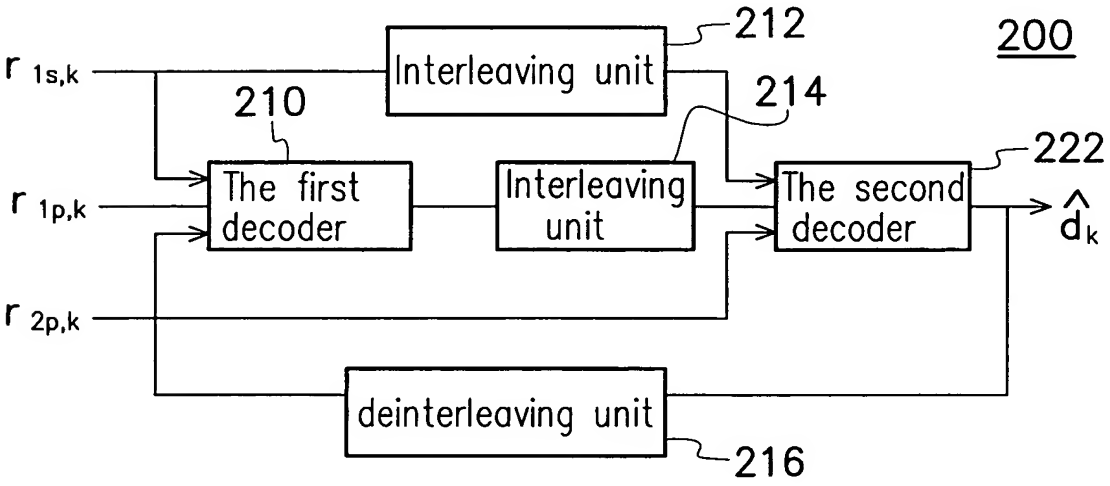
200
212
$r_{1s,k}$
Interleaving unit
214
210
222
$r_{1p,k}$
The first decoder
Interleaving unit
The second decoder
$\hat{d}_k$
$r_{2p,k}$
deinterleaving unit
216

FIG. 2

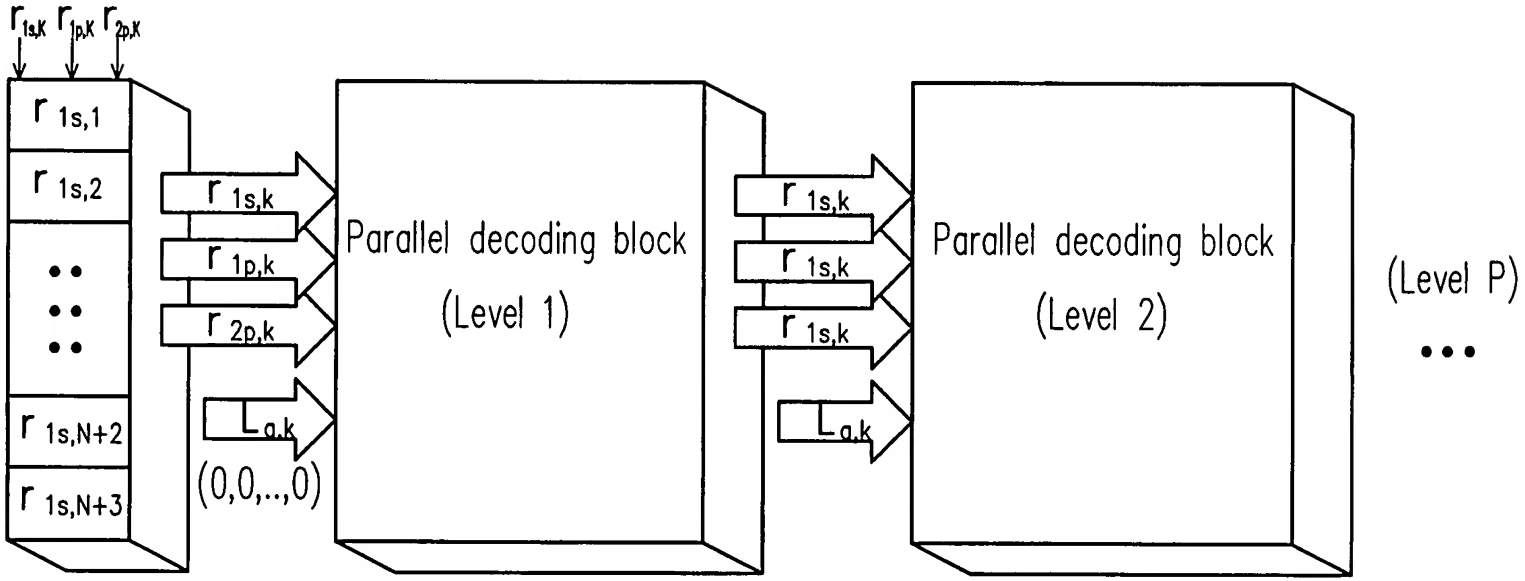
r 1s,K r 1p,K r 2p,K
r 1s,1
r 1s,2
r 1s,N+2
r 1s,N+3
r 1s,k
r 1p,k
r 2p,k
La,k
(0,0,..,0)
Parallel decoding block
(Level 1)
r 1s,k
r 1s,k
r 1s,k
La,k
Parallel decoding block
(Level 2)
(Level P)

FIG. 3

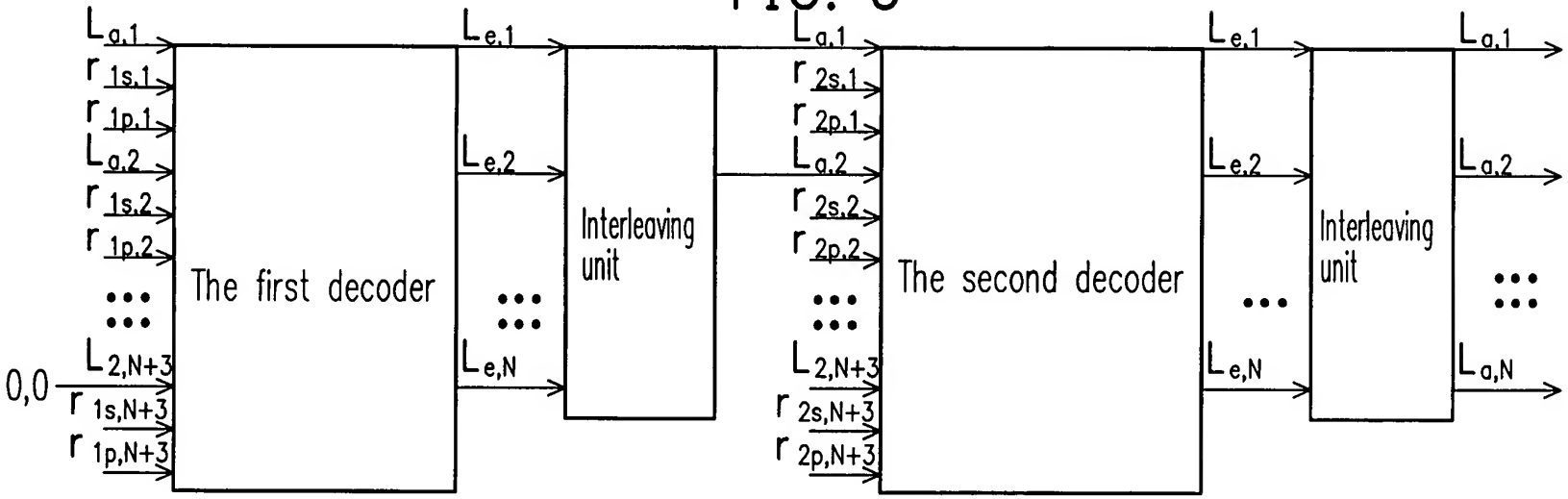
La,1
r 1s,1
r 1p,1
La,2
r 1s,2
r 1p,2
L2,N+3
0,0
r 1s,N+3
r 1p,N+3
The first decoder
Le,1
Le,2
Le,N
Interleaving unit
La,1
r 2s,1
r 2p,1
La,2
r 2s,2
r 2p,2
L2,N+3
r 2s,N+3
r 2p,N+3
The second decoder
Le,1
Le,2
Le,N
Interleaving unit
La,1
La,2
La,N

FIG. 4

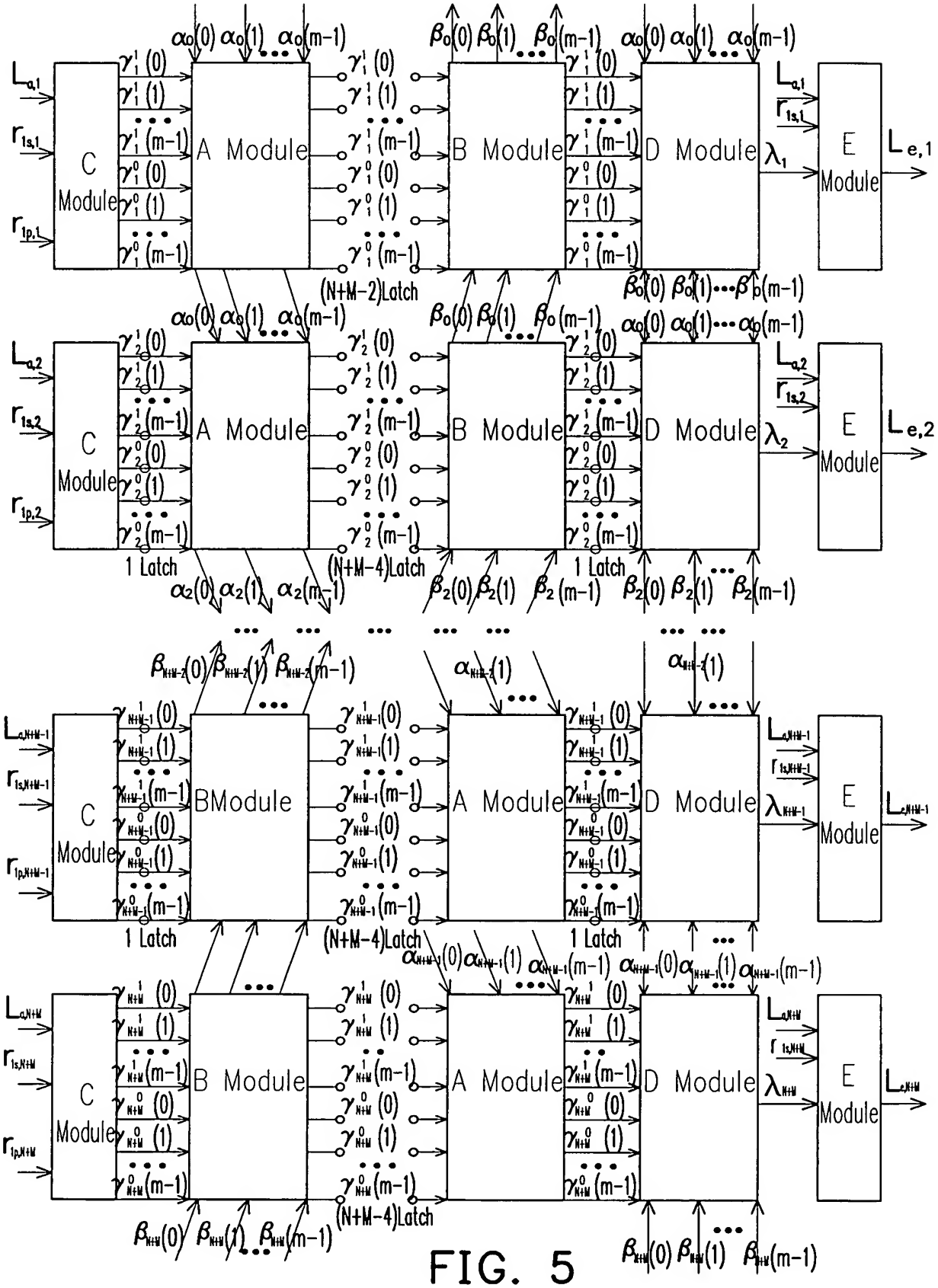
C Module
A Module
B Module
D Module
E Module
BModule
(N+M-2)Latch
(N+M-4)Latch
1 Latch

FIG. 5

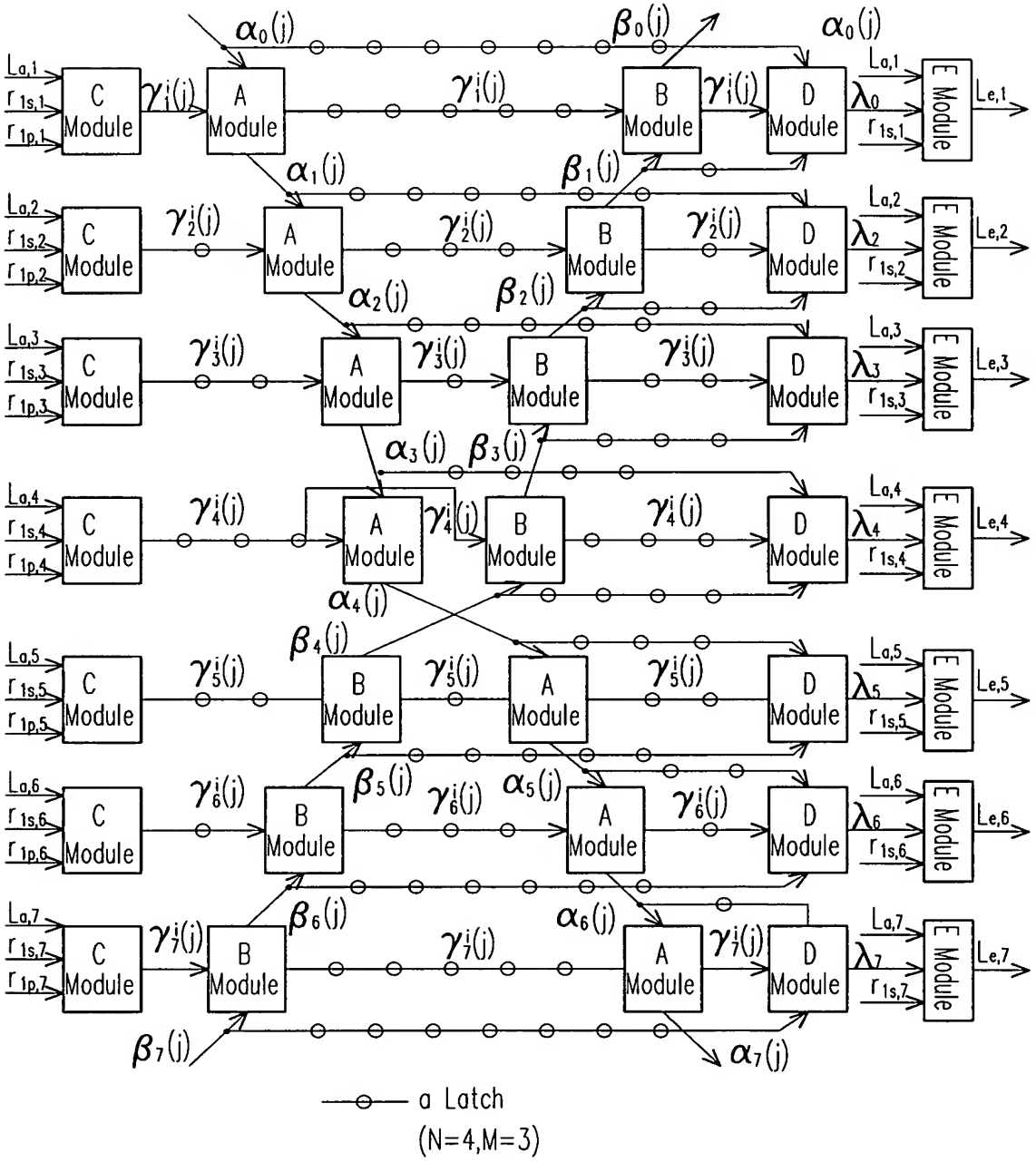

FIG. 6

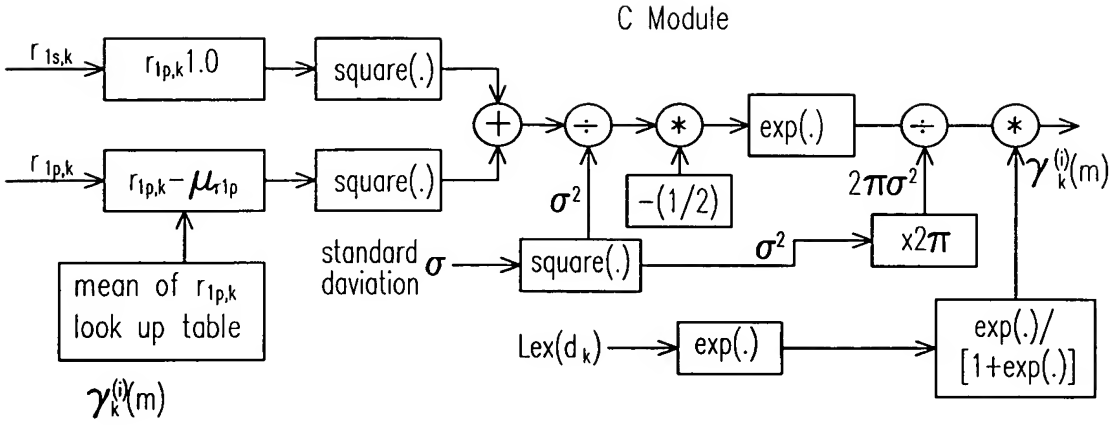
C Module
square(.)
square(.)
exp(.)
-(1/2)
x2π
mean of look up table
standard daviation
square(.)
exp(.)
exp(.)/ [1+exp(.)]

FIG. 7

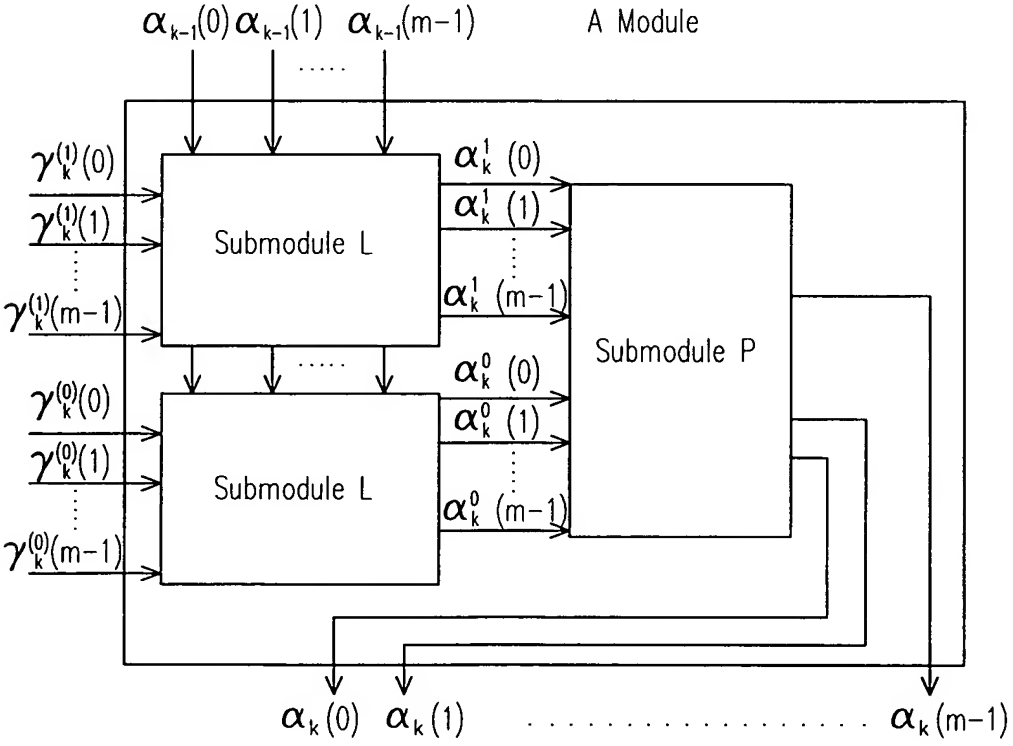
A Module
Submodule L
Submodule L
Submodule P

FIG. 8

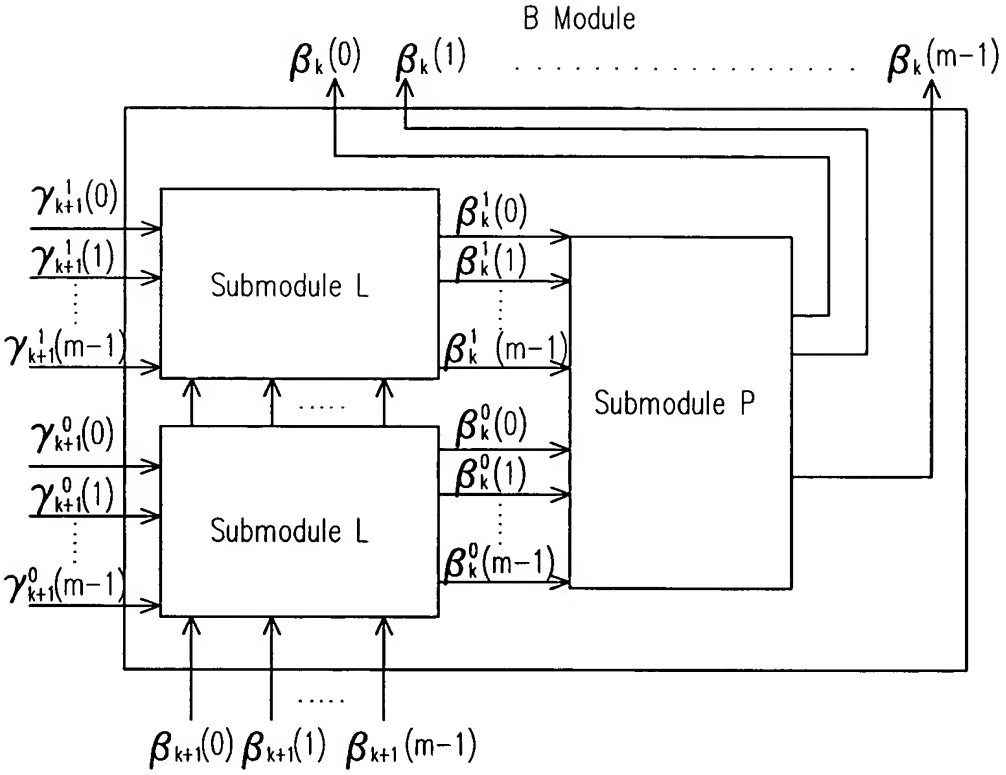
B Module
$\beta_k(0)$ $\beta_k(1)$ $\beta_k(m-1)$
$\gamma^1_{k+1}(0)$
$\gamma^1_{k+1}(1)$
$\gamma^1_{k+1}(m-1)$
Submodule L
$\beta^1_k(0)$
$\beta^1_k(1)$
$\beta^1_k(m-1)$
Submodule P
$\gamma^0_{k+1}(0)$
$\gamma^0_{k+1}(1)$
$\gamma^0_{k+1}(m-1)$
Submodule L
$\beta^0_k(0)$
$\beta^0_k(1)$
$\beta^0_k(m-1)$
$\beta_{k+1}(0)$ $\beta_{k+1}(1)$ $\beta_{k+1}(m-1)$

FIG. 9

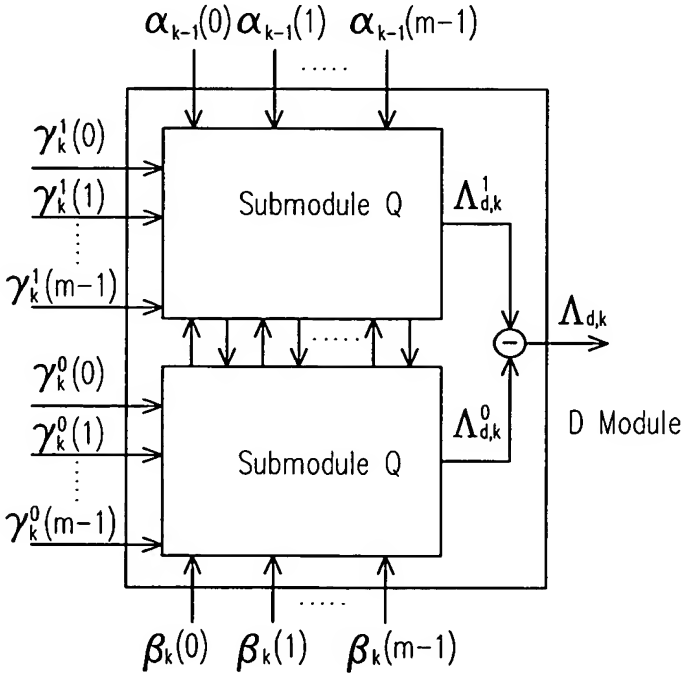
$\alpha_{k-1}(0)$ $\alpha_{k-1}(1)$ $\alpha_{k-1}(m-1)$
$\gamma^1_k(0)$
$\gamma^1_k(1)$
$\gamma^1_k(m-1)$
Submodule Q
$\Lambda^1_{d,k}$
$\Lambda_{d,k}$
$\gamma^0_k(0)$
$\gamma^0_k(1)$
$\gamma^0_k(m-1)$
Submodule Q
$\Lambda^0_{d,k}$
D Module
$\beta_k(0)$ $\beta_k(1)$ $\beta_k(m-1)$

FIG. 10

Submodule L structure

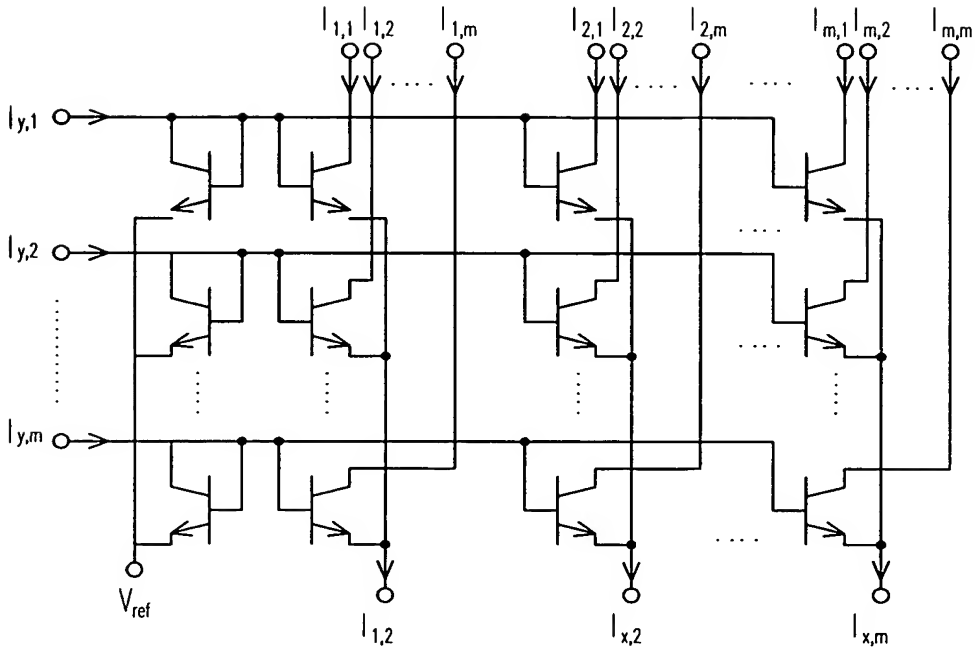

FIG. 11

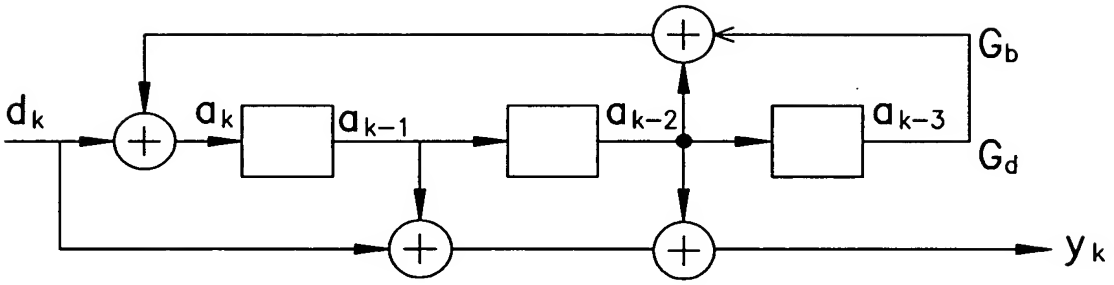

FIG. 12

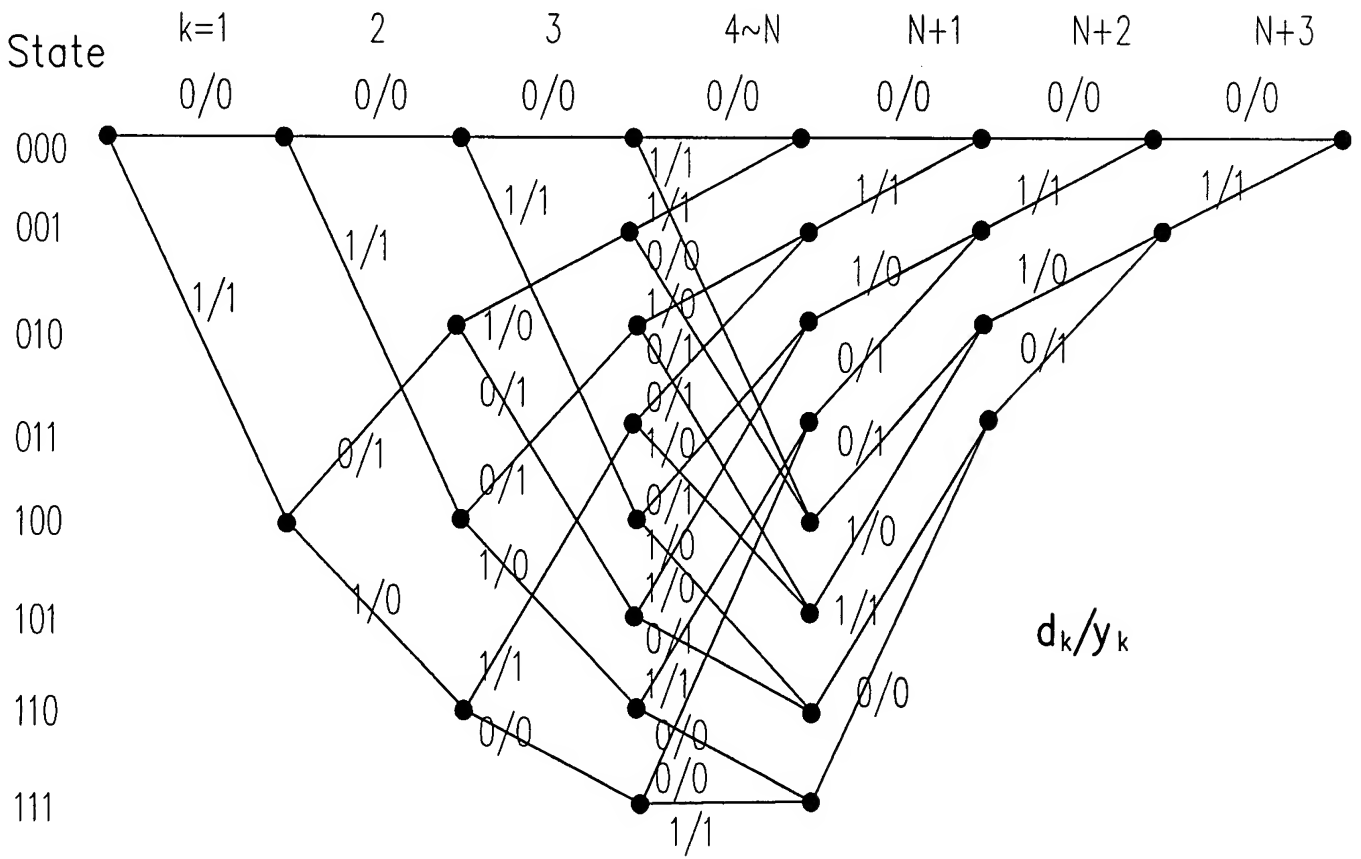

FIG. 13

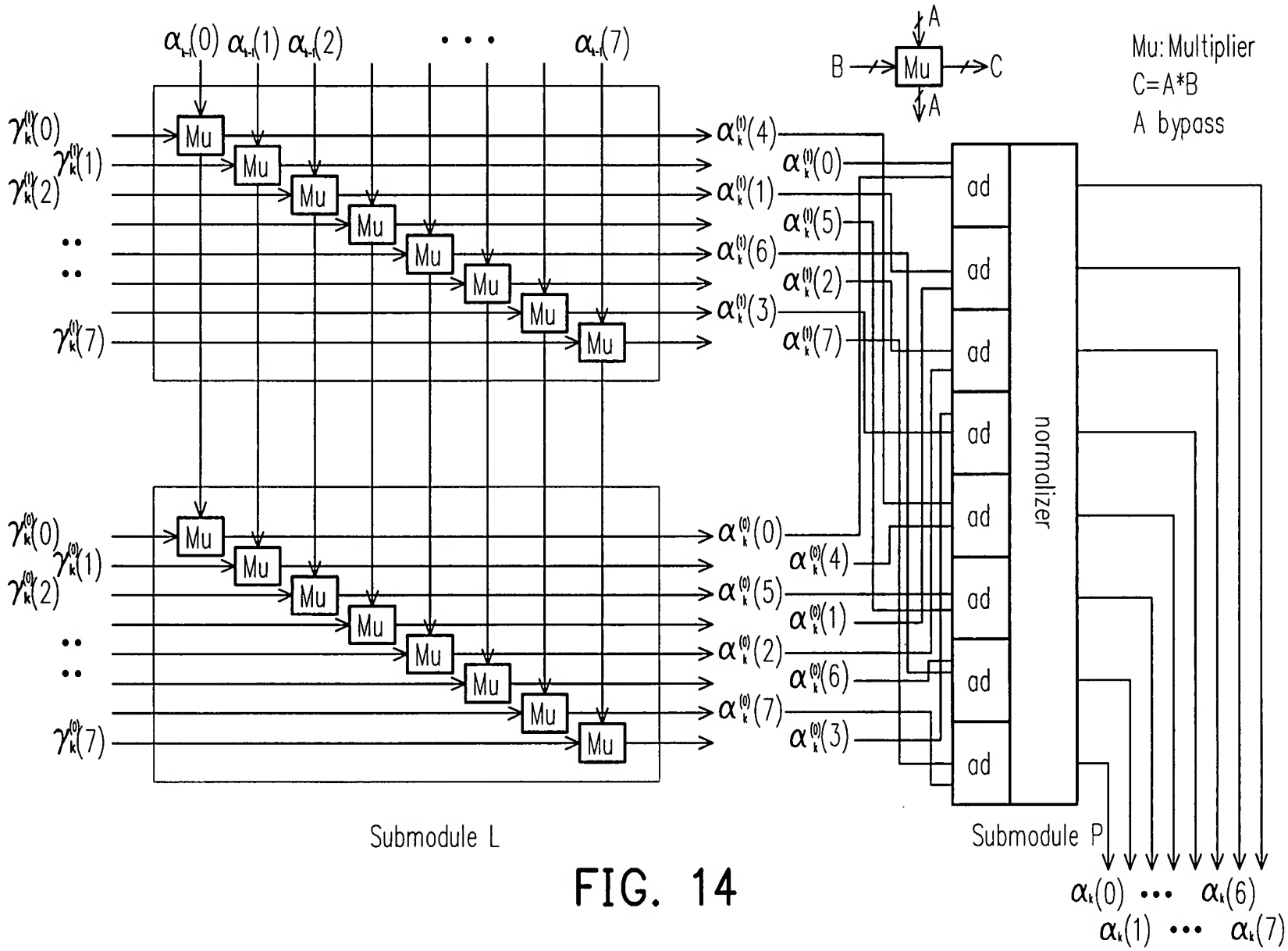
Mu: Multiplier
C=A*B
A bypass
Mu
ad
normalizer
Submodule L
Submodule P

FIG. 14

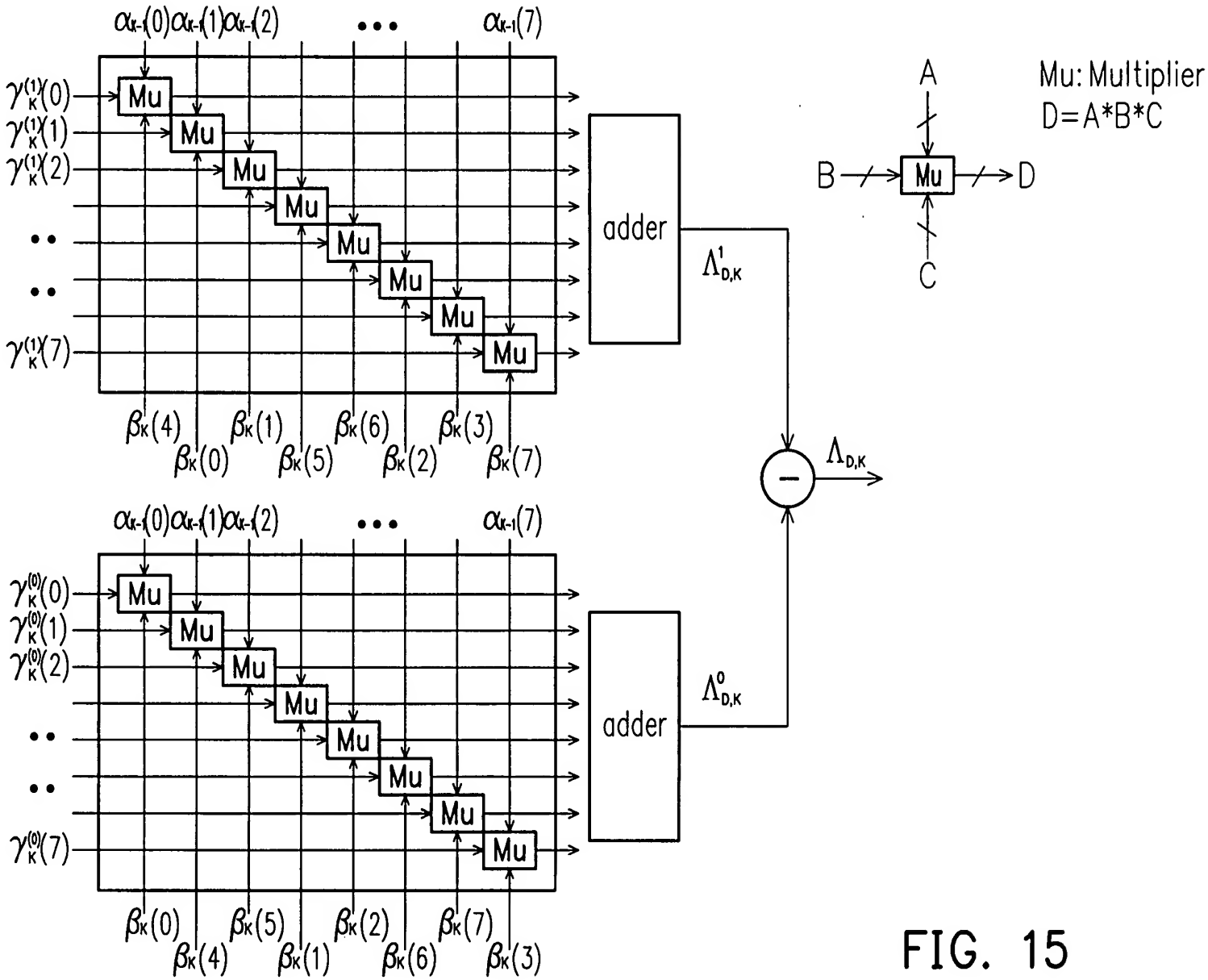

FIG. 15

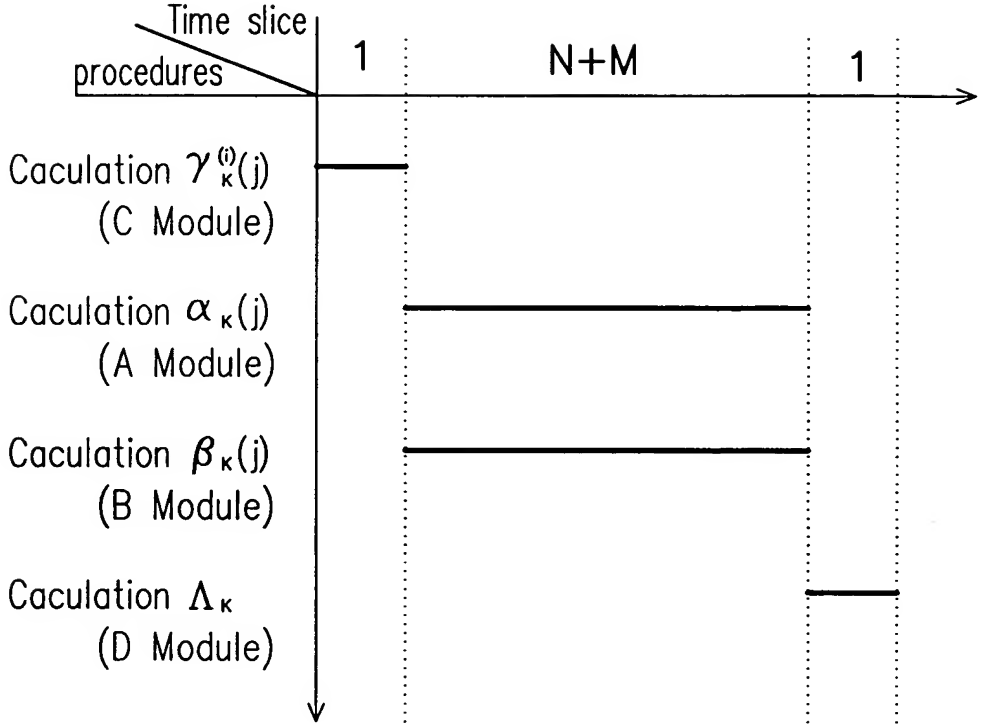
Time slice
procedures
1
N+M
1
Caculation $\gamma_{\kappa}^{(i)}(j)$
(C Module)
Caculation $\alpha_{\kappa}(j)$
(A Module)
Caculation $\beta_{\kappa}(j)$
(B Module)
Caculation Λ_{κ}
(D Module)

FIG. 16

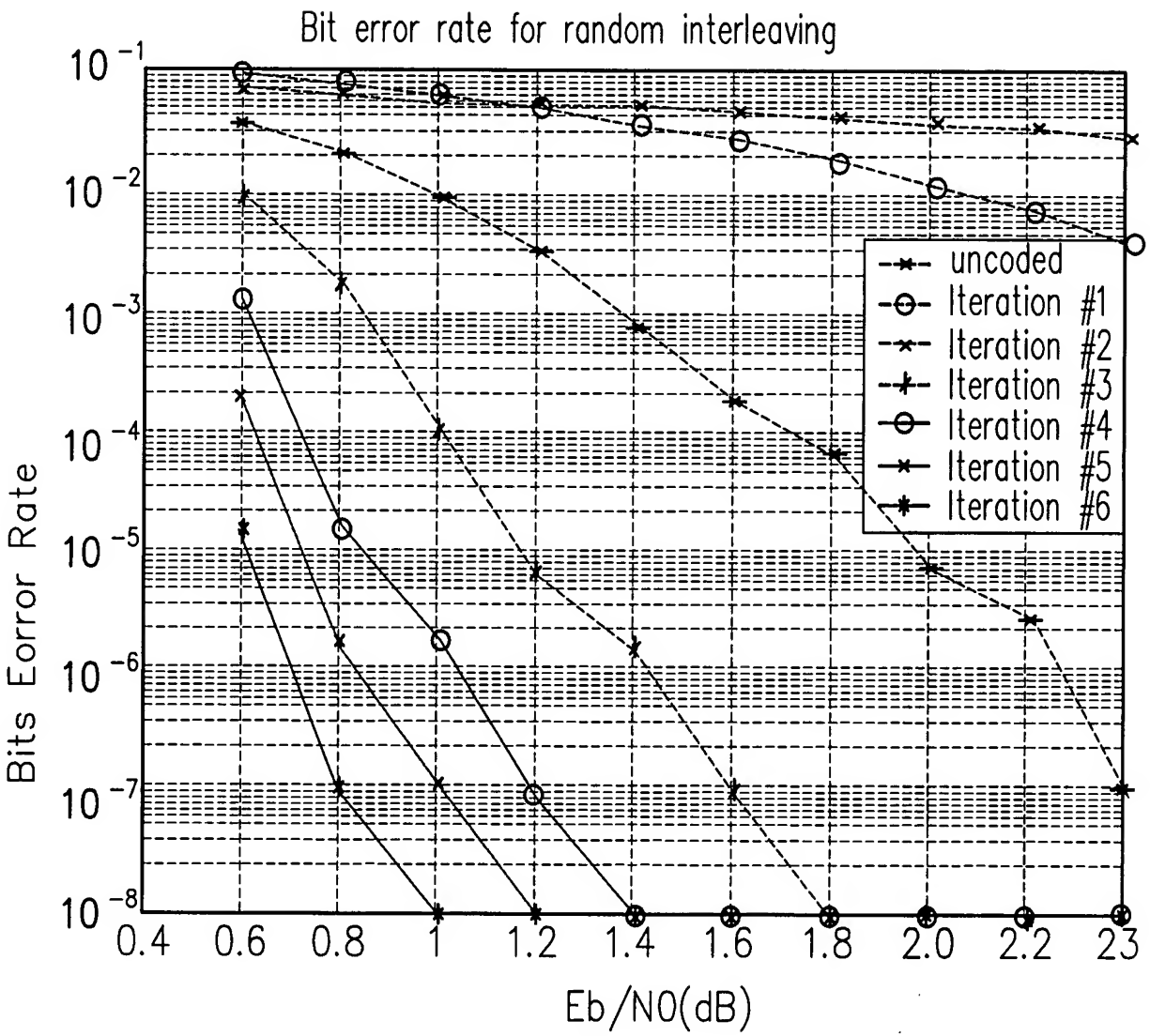

FIG. 17